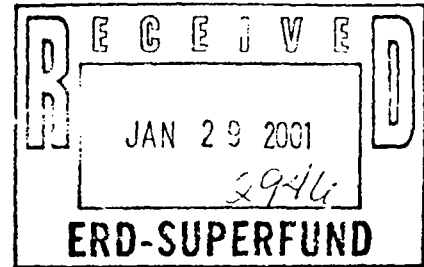




295236

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Transmitted Via Federal Express

January 26, 2001

Mr. J. Brian von Gunten
MDEQ-ERD
Superfund Section
Knapps Centre - Mezzanine Level
PO Box 30426
Lansing, MI 48909-7926

Re: Request for Adding Another Lab
Project #: 645.24.803

Dear Brian:

The following is in response to your questions regarding the addition of a supplemental laboratory for work on the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site.

1. *If SWLO has undergone a third party or audit, please have the lab provide this for review by MDEQ. I noticed one of their clients is GE. If they are in the GE contract program, the audit generated there will be okay. I think this would actually be the property of the lab.*

Response:

Although not a participant in the GE contract program, SWLO has undergone third party audits associated with various certifications the laboratory maintains. A copy of one of these audits will be provided to you.

2. *Although the extraction and clean-up methods used by both labs are relatively the same, quantification methods are different. SWLO only calibrates Aroclor 1016 and Aroclor 1260 by a 5-point calibration. The other 5 Aroclors are single point calibrations. Will this be changed for the Kalamazoo requirements?*

Response:

The project-specific addendum to the SOP for sample analysis was not included in the copy submitted to the State. As stated in the addendum, 5-point calibrations will be performed for Aroclors 1016, 1242, 1254, and 1260. Single-point calibrations will be performed for the remaining Aroclors. A copy of this addendum is attached to this letter.

3. *Are low point calibration concentrations (100 ng/mL for SWLO) the same for both labs, so that reporting limits are equivalent?*

Response:

The low-point standards are the same for both laboratories, resulting in equivalent reporting limits.

4. *Will SWLO use the same GC column pairs as BBL's current lab?*

Response:

SWLO will use an RTX-5 and RTX-CLP column. STL, to date, has used the combinations of RTX-5/RTX-35 and RTX-5/RTX-CLP columns. Both laboratories are required to include an RTX-5 (or equivalent) as one of their analytical columns at all times.

5. *Will SWLO use the identification/quantification program currently in use by STL for the Kalamazoo program?*

Response:

SWLO will not use the identification/quantitation program used by STL. The program is proprietary.

6. *Will SWLO use the "power function linearization" calibration model to correct the non-linearity of the detector as is performed currently by STL?*

Response:

SWLO will quantitate using the average calibration factors.

7. *How will samples be selected for the lab comparison? Sediments that exhibit PCB profiles that are highly altered (dechlorinated) should be selected since they may represent a good portion of the sample load. Will there be a standard reference material (SRM) included to baseline both labs?*

Response:

For the initial study, the three target areas were chosen to include three different concentration ranges and to include at least one "residual" sample and one "sediment" sample. The five additional areas were directed, somewhat randomly, to depositional areas which might be expected to produce positive results. The ongoing split samples will be randomly selected from the group being analyzed by SWLO.

It should be noted that both STL and SWLO are certified by the State of Michigan and that both laboratories are following procedures which are consistent with the QAPP requirements.

In response to your e-mail to Mike Scoville on January 25, 2001, commenting on the analyses of samples to measure the equivalency of the procedures, MDEQ is correct that the term "five replicates" indicates five analyses of a single sample; and that three independent sediment samples will be analyzed in replicate by each of the two laboratories. The purpose of using three expected concentrations is to

develop the relationship between variability and PCB concentration and was designed to test the equivalency of the laboratories following the procedure prescribed in *Standard Methods for the Examination of Water and Wastewater*. The five randomly collected, singly analyzed split samples will be used to assess the goodness of fit of the relationship established by the replicate samples, but will not be included in the analysis of equivalency.

With regard to your citation of Hurlbert's paper (1984), the sampling and analyses program proposed can be explained in terms consistent with that reference. The experimental design proposed consists of 10 replicates obtained from each of three sediment cores, each taken from areas predetermined to be representative of varying PCB concentrations. Material from each core will be homogenized to achieve the best practical extent of reduction in gross heterogeneity consistent with the sample size to be evaluated. Randomization techniques will then be used as a process to achieve interspersions of treatments (respective laboratory analytical processing) among the ten replicates (five replicates sent to each lab) from each of the three sediment cores. It must be noted that this process does not guarantee 10 identical samples, since random variability (statistical error) will be present in each. This process, while providing similar samples, is expressly for the purpose of eliminating bias and providing that on average these statistical errors are independently distributed, conferring statistical validity upon this phase of the experiment. The condition of pseudoreplication discussed in Hurlbert's essay on the topic does not apply.

The three replicate samples are being used to describe the variability of PCB results in well homogenized samples. The intent of the sample design is to represent a wide range of PCB concentrations; in the course of doing that, we expect to be sampling a range of TOC, particle size distribution, and perhaps dechlorination histories. Although the evidence of dechlorination appears to coincide with higher PCB levels, dechlorination patterns are not consistently evident across high concentration PCB samples. Laboratory comparability will be additionally assessed through split core samples at a rate of one per every twenty cores analyzed. Furthermore, in response to your request, we will add standard reference material for analysis of a sample rate equivalent to one per every 100 sediment samples analyzed.

If you have any questions or comments, please call me.

Sincerely,

BLASLAND, BOUCK & LEE, INC.



Mark P. Brown, Ph.D.
Senior Vice President

MDS/tld

cc: Cynthia V. Bailey, Esq., Fort James Corporation
Bonnie A. Barnett, Esq., Drinker, Biddle & Reath
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SOP Addendum

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BB&L Addendum

ANALYTICAL TECHNIQUES

PCB analyses will be performed according to the laboratory's Standard Operating Procedure (SOP) for SW-846 8082 analysis, modified to include the following:

- Five-point calibration will be performed for Aroclors 1016, 1242, 1254 and 1260. Single points will be analyzed for the remaining Aroclors;
- Samples will be extracted in hexane:acetone by soxhlet, followed by cleanup using sulfuric acid, silica gel and GPC (see SWL-OE-420;)
- All samples will be fully quantitated on two columns, one of which must be a DB-5 or equivalent. The second will be a Restek CLP Pesticide Column. The higher of the two quantitated results will be reported;
- Full integration results (rt-vs- response for all detected peaks) will be provided for all samples and standards;
- The matrix spike will include Aroclor 1254, additional Aroclors may also be added at the discretion of the laboratory;
- A reporting limit of 0.05 mg/kg will be used. Values between the reporting limit and the detection limit will be reported with a "J" qualifier.